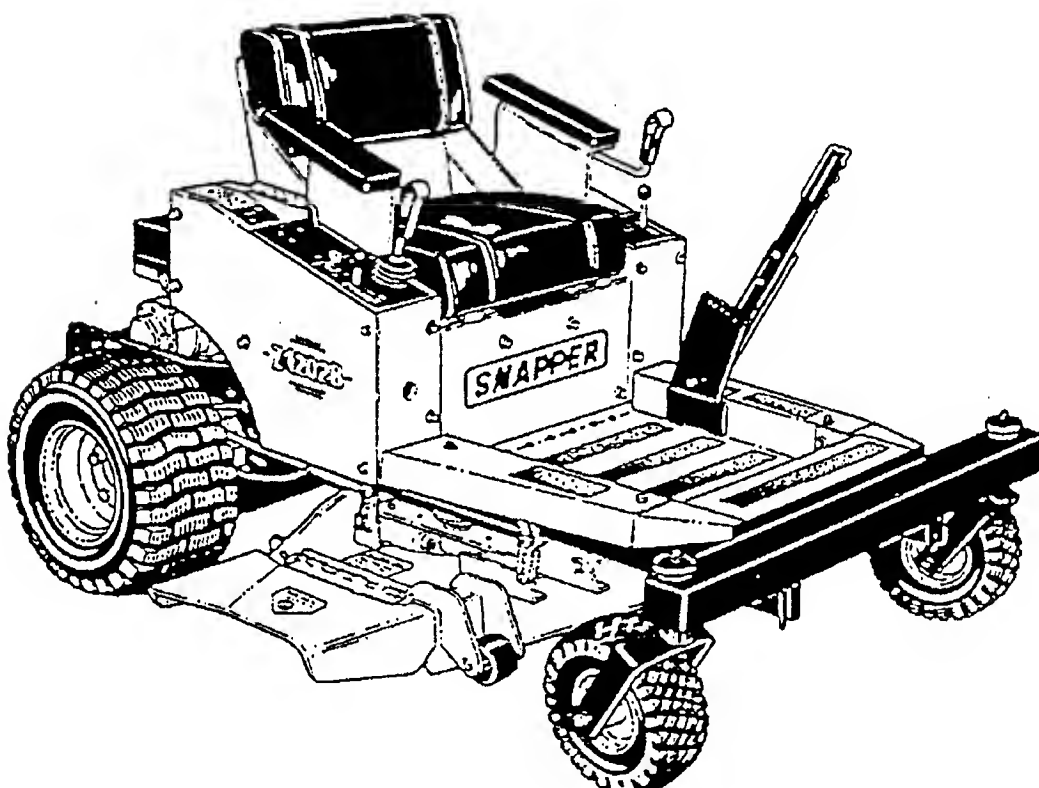


Safety Instructions & Operators Manual

SNAPPER®

ZERO TURN RADIUS MOWER
MODELS Z1202B, Z1402K, Z1802K, Z2002K,
Z1203B, Z1403K, Z1803K, Z2003K,
Z1404K, Z1804K, Z2004K



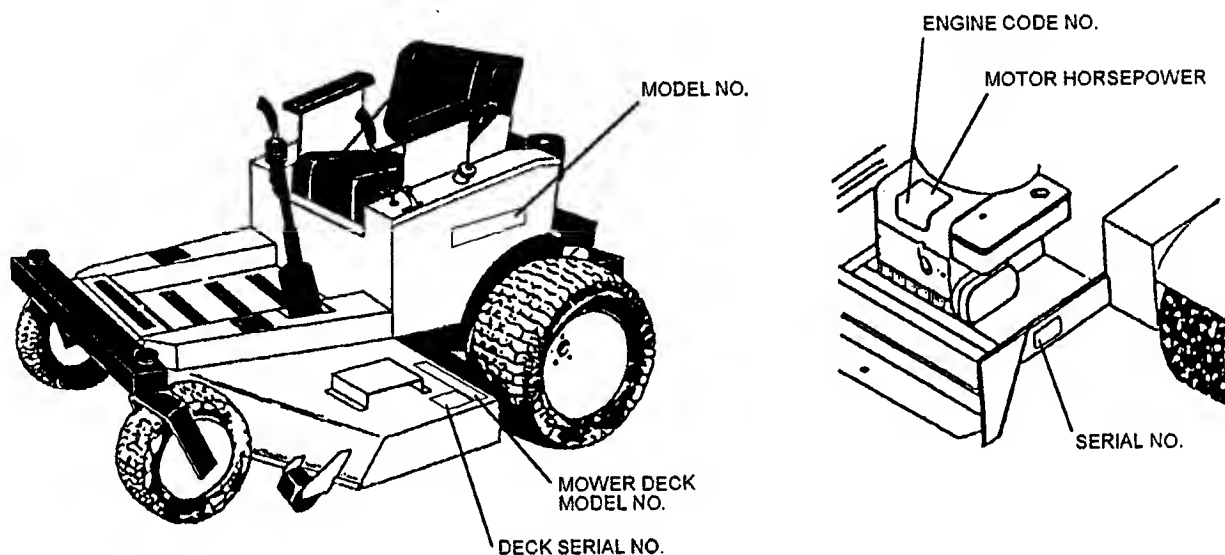
Thank you for buying a **SNAPPER** product. Your **SNAPPER** Zero Turning Radius Mower was designed and built to provide long and satisfactory service. Keep in mind that it, like any other mechanical device, can be potentially dangerous if used improperly and no accident prevention program can be successful without the wholehearted co-operation of the person responsible for the operation of the equipment. Study this manual and pay particular attention to the important Safety Precautions on pages 1-3. Following these instructions will help you continue to enjoy the trouble free performance expected of a **SNAPPER** product.

SNAPPER
McDonough, GA 30253

MANUAL #62059
(1-95)
P-10618

SERIAL NUMBER LOCATIONS

1. Mower frame serial number is located on right rear side of frame beside engine.
2. Deck serial number is located on left front side of mower deck housing.
3. Engine code number is located on back center of 12 h.p. engine, right side of blower housing on 14 h.p. engine, and front left of blower housing on 18 and 20 h.p. engines.



RECORD OF PURCHASE

DATE PURCHASED _____ MOWER MODEL _____

MOWER PURCHASED FROM _____
Dealer name and phone number

MOWER FRAME SERIAL NUMBER _____

MOWING DECK SERIAL NUMBER _____

ENGINE CODE NUMBER _____

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SAFETY

ACCIDENT PATTERNS TO AVOID

- I. CONTACT WITH THE ROTATING BLADE --This accident usually happens when the operator is clearing the discharge chute of grass, (especially when the grass is wet), or when the operator adjusts the machine without turning it off and waiting for the blades to completely stop.
- II. PROPELLED OBJECTS --Sticks, rocks, wires, and other objects can be propelled out through the discharge chute or from under the mower housing. Bystanders are particularly vulnerable.
- III. GRASS CATCHER OR GUARD --The mower shall not be operated without either the entire grass catcher or guard in place.
- IV. OVERTURNING --This happens when riding mowers are used on steep slopes, embankments or hills. The operator in these cases can come in contact with the blades or sustain injuries during a fall.
- V. MOWER RUNNING OVER THE VICTIM --This usually happens when a riding mower is driven in reverse. The accident victims are most often young children whom, unseen by the operator of the mower, were in the area being mowed.

AT **SNAPPER**, WE SHARE YOUR DESIRE TO PROTECT YOURSELF, YOUR FAMILY, YOUR FRIENDS AND YOUR NEIGHBORS FROM ACCIDENTAL INJURY. OBSERVING AND ENFORCING THE FOLLOWING GUIDELINES WILL HELP TO INSURE THE SAFETY OF EVERYONE.

PLEASE BE CAREFUL!

SAFETY INSTRUCTIONS AND RECOMMENDATIONS

1. PEOPLE WHO OPERATE, SERVICE, OR ARE OTHERWISE ASSOCIATED with the **Snapper** Zero Turning Radius Mower should be trained in its proper use and warned of its dangers. Before operating, adjusting, or servicing the **Snapper** Zero Turning Radius Mower they should read and understand this entire manual and the owner's engine manual.
2. AVOID CONTACT WITH MOVING PARTS. Keep hands and feet from under mowing deck and away from blades at all times. Turn engine (motor) off if you must unclog the chute.
3. AVOID HILLS AND SLOPES. Use extreme caution when mowing up or down slopes. NEVER mow across the face of a slope. If a slope must be ascended, back up the slope; drive forward when descending. Reduce speed and use caution to start, stop and maneuver. To prevent loss of control on a slope avoid sharp turns, sudden changes in direction, and sudden stops and starts.
5. DISENGAGE POWER TO MOWER BEFORE BACKING UP. Do not mow in reverse unless ABSOLUTELY necessary and then only after turning around and observing the entire area behind the mower. Go slowly. Most "running over victim" accidents occur in reverse.

6. BEGINNING OPERATORS SHOULD LEARN HOW TO STEER the **Snapper** Zero Turning Radius Mower before attempting to mow. Start with slow engine speed and drive without the blades engaged in open area until comfortable with the machine.
7. KNOW HOW TO STOP QUICKLY. Know the location and operation of every control, especially how to brake and how to disengage the mower blades.
8. DO NOT MOVE THE JOYSTICK CONTROL LEVER from forward position to reverse position rapidly. The speed and/or direction of travel is affected instantly by movement of the Joystick.
9. DO NOT ALLOW CHILDREN TO OPERATE MOWER. Do not allow others who have not had instruction to operate mower.
10. ALWAYS TURN ENGINE OFF AND REMOVE KEY before leaving mower to prevent children and inexperienced operators from starting the engine. Never leave the mower unattended with engine running. Always wait for all moving parts and all sounds to stop before leaving operator's seat. Always set the parking brake on an unattended mower.
11. WEAR STURDY, ROUGH-SOLED WORK SHOES AND CLOSE-FITTING SLACKS and shirts. Never operate mower in bare feet, sandals or sneakers.
12. NEVER CARRY PASSENGERS.
13. KNOW THE AREA YOU ARE TO MOW. Watch for hidden dangers such as rocks, roots, sticks, holes, bumps, and drop-offs, etc. Before mowing, pick up all debris in area to be mowed. Sharp and hard objects can be propelled at a high speed and can act like shrapnel. Walk through tall grass BEFORE MOWING to make sure there are no hidden dangers. Mow higher than desired in tall grass to expose any hidden objects and/or obstacles, clean the area, and then mow to the desired height.
14. NEVER REFUEL A MOWER INDOORS. Allow the engine time to cool before refueling. Unseen vapors may be ignited by a spark. Always clean up spilled gasoline. Never run the engine indoors in a garage or any other closed building. Allow engine to cool before storing in any enclosure. The engine exhaust and gasoline fumes are dangerous.
15. NEVER REMOVE THE FUEL CAP or add gasoline to a running or hot engine or an engine that has not been allowed to cool for several minutes after running. Always make sure the gas cap is in place.
16. DO NOT SMOKE AROUND THE MOWER or the gasoline storage container. Gasoline fumes can easily ignite.
17. KEEP GASOLINE IN A WELL-VENTILATED AREA away from your living quarters and in tightly-capped safety cans. Never store mower with gasoline in the tank inside a building where fumes may reach open flame or spark.
18. DISENGAGE BLADE, STOP ENGINE AND REMOVE IGNITION KEY before any servicing. Be sure all moving parts and all sounds have stopped. Let engine cool and disconnect the spark plugs so the engine cannot start by accident. A SLIGHT ROTATION OF THE BLADES COULD START THE ENGINE.
19. KEEP ALL NUTS, BOLTS, AND SCREWS TIGHT to be sure equipment is in safe working condition, especially blade mounting bolts.

20. VEHICLE SHOULD BE STOPPED AND INSPECTED FOR DAMAGE after striking a foreign object and the damage should be repaired before restarting and operating the equipment. Stop immediately and check for damage or loose parts if mower should start vibrating.
21. DISENGAGE BLADES BEFORE DRIVING ACROSS WALKS or projecting objects.
22. KEEP SAFETY DEVICES AND GUARDS IN PLACE. If any of the safety switches become inoperable, have them repaired immediately.
23. DO NOT STEP OR STAND ON THE MOWER HOUSING. Step or stand only on the foot deck.
24. WATCH OUT FOR TRAFFIC near roadways and when crossing roads.
25. THIS MACHINE IS NOT MEANT FOR HIGHWAY OR STREET USE. It is not a recreational vehicle and it should not be operated as such.
26. DO NOT USE MOWER WHEN GRASS IS WET OR SLIPPERY.
28. MOW ONLY DURING DAYLIGHT.
29. ALWAYS DISENGAGE THE MOWER BLADE CLUTCH when transporting.

SAFETY INTERLOCK SYSTEM

Your **Snapper** Zero Turning Radius Mower is equipped with switches interlocked for your safety.



1. The mower blades must be disengaged before the engine will start.
2. The Joystick control lever must be in neutral "DOWN" position before the engine will start.
3. The engine will stop if the mower blade clutch is engaged when the operator leaves the driver's seat.
4. The engine will stop if the Joystick control lever is not in the neutral "DOWN" position when the operator leaves the driver's seat.
5. The engine will stop if the brake is "SET" and the Joystick control lever is moved to the "UP" position.
6. The engine will stop if the brake is "SET" and the mower blade clutch is engaged.

**DO NOT OPERATE MOWER IF SAFETY
SWITCHES ARE NOT OPERATING PROPERLY**

START UP AND OPERATION

CHECKLIST BEFORE OPERATION

1. Make sure fuel tank is full. Use regular unleaded gasoline (see engine owner's manual for more details).

**WARNING**

**HANDLE GASOLINE WITH CARE--IT IS HIGHLY FLAMMABLE.
DO NOT SMOKE. ENGINE SHOULD BE OFF AND COOL. USE
APPROVED GAS CONTAINER. NEVER FILL TANK INDOORS.
WIPE UP ANY SPILLS. REPLACE CAP TIGHTLY**

2. Make sure dirt and foreign matter is kept out of gas tank. Use a clean funnel and gas can.
3. Do not mix oil with gasoline.
4. Do not use white, high test or premium gasoline. Do not use de-icers, carburetor cleaners, or other such additives.
5. Check the crankcase oil level. Make sure the engine is off. The mower should be parked on a level area. Do not overfill. (see your engine manual for more detailed instructions.)
6. Check the hydrostatic transmission oil level. (see "Maintenance" section of this manual.)
7. Check battery fluid level.
8. Inspect V-belts.
9. Check tire pressure:

	Front tires	Rear tires
Models Z1202B, Z1203B-----	10" 24 psi	18" 12 psi
Models Z1402K, Z1802K, Z2002K-----	13" 20 psi	20" 24 psi
Models Z1403K, Z1803K, Z2003K-----	13" 20 psi	20" 24 psi
Models Z1404K, Z1804K, Z2004K-----	13" 16 psi	20" 16 psi
10. Make sure underside of mower deck is free of grass.
11. Make sure mower blades are sharp and secured tightly.
12. Clean the air intake screen on the engine if necessary.
13. Perform any other maintenance as it becomes necessary.
(see the "Maintenance" section of this manual.)

IMPORTANT: Before cutting grass, clutch must be broken-in as follows: With engine at full RPM engage deck until blades come to full speed and then disengage until blades come to a complete stop. Repeat 10 times to seat clutch properly.

CONTROL LOCATIONS

Ignition Key - On front, of Seat Support Panel, towards RH side.

Engine Throttle - On right hand control console.

Joystick Steering/Speed Control Lever - On right hand control console.

Blade Clutch Switch - On left hand control console.

Parking Brake Lever - On right hand control console.

Blade Height Adjust lever - Left side on foot deck.

Choke - On left hand control console. On Choke-A-Matic models, choke is at full throttle position of throttle.

Transmission Unlock - Sliding actuators are located behind the seat in front of the engine under the engine mount plate on each side.



WARNING



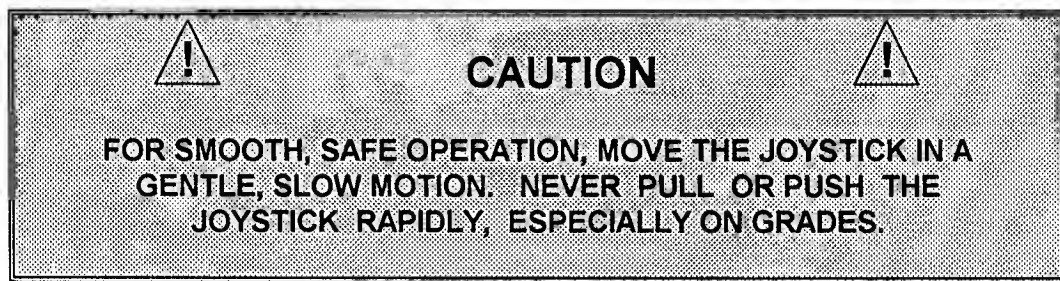
AVOID INHALING EXHAUST FUMES-- CARBON MONOXIDE GAS IS COLORLESS AND ODORLESS, AND CAN CAUSE UNCONSCIOUSNESS, AND IS POTENTIALLY LETHAL. DO NOT RUN LAWN MOWER IN GARAGE OR OTHER CONFINED AREA.

OPERATION

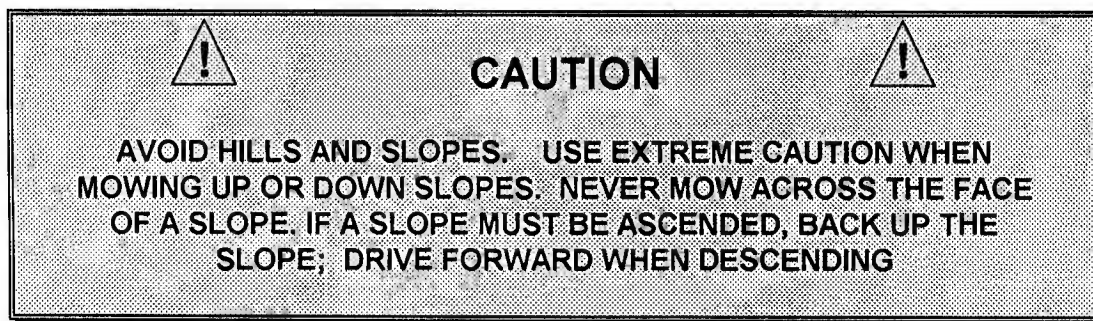
1. MOVE JOYSTICK CONTROL LEVER TO neutral "DOWN" position by centering it and pushing down.
2. SET PARKING BRAKE. Pull rearward to set.
3. DISENGAGE MOWER BLADE CLUTCH by moving clutch switch to "OFF" (right) position.
4. SET ENGINE CHOKE CONTROL for cold starts to full position.
5. SET ENGINE THROTTLE TO 1/2 throttle. (For combined choke/throttle, use choke setting.)
6. TURN IGNITION KEY to "START" position and release to "RUN" as soon as engine starts.
Note: Prolonged cranking will damage starter motor and shorten the battery life.
7. ADJUST ENGINE THROTTLE AND CHOKE for desired engine smoothness and speed.
Note: When mowing, always run engine at full throttle.
8. RELEASE PARKING BRAKE. Push brake lever forward to release.

IMPORTANT: If the operator is inexperienced with the Joystick zero turning radius steering/speed control, he/she should follow these recommendations: Disengage the mower blades. Go very slowly until thoroughly familiar with the machine. Keep away from fences, buildings, and other obstructions. While becoming familiar with the machine, move the Joystick Control Lever smoothly and slowly. Practice until operation is smooth and efficient.

9. **TO DRIVE** move the Joystick steering/speed control lever to the "UP" position. Move the Joystick forward to move forward. Increasing forward movement of the Joystick will increase the speed of travel. To reverse the direction, pull the Joystick slightly back. To turn, move the joystick toward the direction you want to turn. To turn on a zero radius axis, go slowly and move the Joystick to the side you wish to turn and slightly to the rearward at the same time.

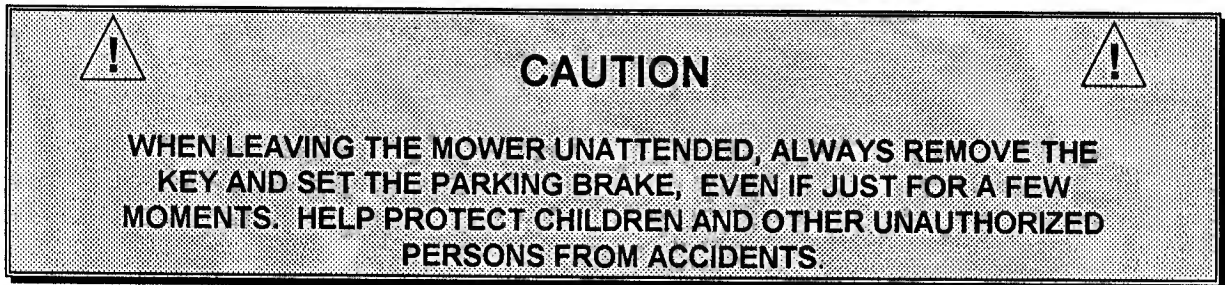


10. **BRAKING:** To brake mower, gently move the Joystick in the direction opposite to travel. If the parking brake is engaged with the Joystick in the "UP" position the engine will stop.
11. **CUTTING HEIGHT ADJUSTMENT:** Move the Cut Height Adjust Lever to the left to clear the peg holes. Adjust "HIGHER" by moving the lever rearwards. Adjust "LOWER" by pushing the lever forward. Reset the Cut Height Lever in the peg hole.
12. **ENGAGE MOWER BLADE CLUTCH** by pulling up on the blade clutch switch lever then moving the lever to "ON" (left) position. The engine will not start if the blade clutch is engaged. If the operator is not in the seat, the engine will stop if the clutch is engaged.

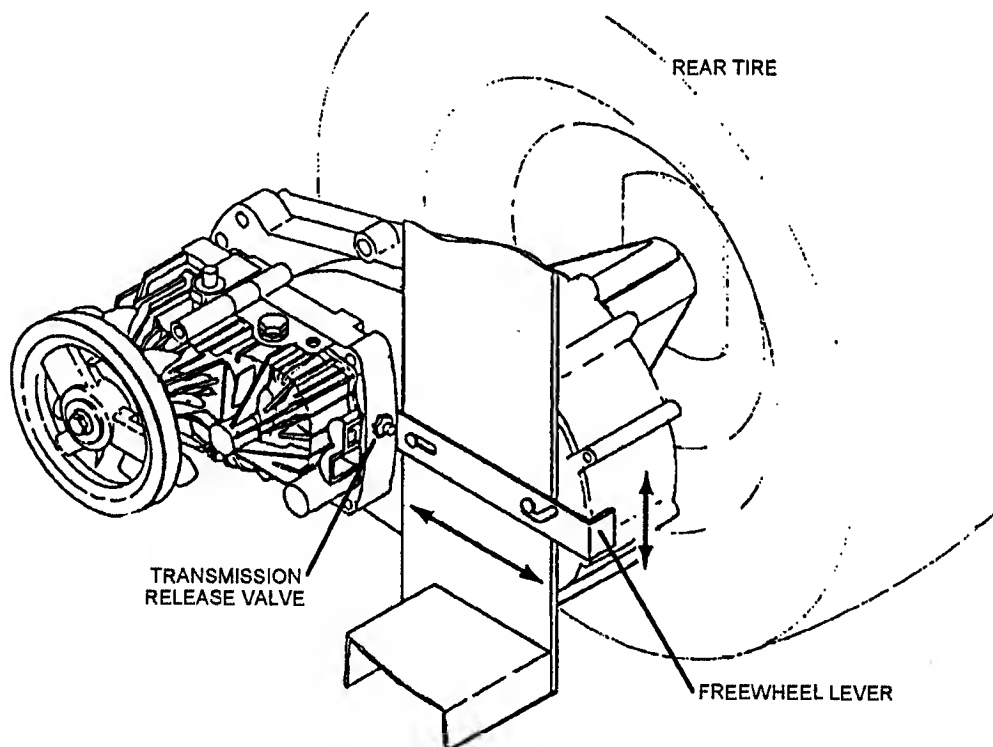


13. TO STOP:

- A. Move Joystick to neutral position and then to the "DOWN" position.
- B. Set the parking brake.
- C. Disengage the mower blade clutch by moving the clutch to the "OFF" (right) position.
- D. Slow engine speed with throttle to slowest position.
- E. Turn ignition key to "OFF" (left) position.
- F. Remove the key and wait for all movement and all sound to cease before dismounting.

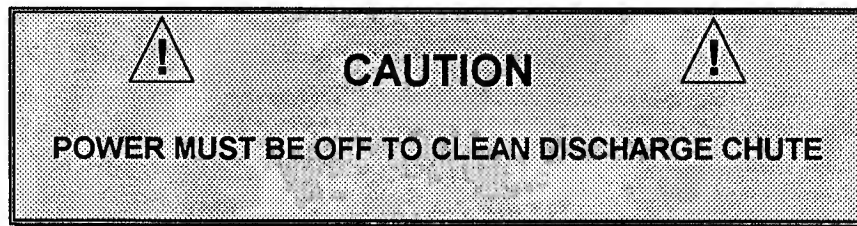


14. **UNLOCK TRANSMISSION:** The transmission release levers are located on each side of the mower behind the seat in front of the engine and below the engine mounting plate. Lift the levers slightly, push them to the rear and down to release the transmissions for free wheeling. To engage the transmissions lift the levers slightly, pull them forward and then down.
- NOTE:** The tractor should never be pulled at more than 2 miles per hour or for any appreciable distance.



MOWING RECOMMENDATIONS

1. Keep mower blades sharp.
2. Make sure deck and discharge chute are clean.



3. When mowing tall grass, make two passes, mowing off 1/2 of the desired cut on the first pass, and then the desired height the second pass. Check for hidden dangers first.
4. Go slowly for trimming.
5. Always cut grass with the engine at full throttle speed. This "ENGINE" speed allows the cutting blades to operate at optimum cutting speed. Control "GROUND" speed with the Joystick.
6. Vary ground speed to suit conditions (i.e.: go slower in tall thick grass, on hills, wet conditions, etc.).

TRACTOR SPECIFICATIONS

Length

Models Z1202B, Z1203B, Z1402K, Z1403K,
Z1802K, Z1803K, Z2002K, Z2003K ----- 71"
Models Z1404K, Z1804K, Z2004K ----- 74"

Width

All Models ----- 46"

Height

Models Z1202B, Z1203B, Z1402K, Z1403K
Z1802K, Z1803K, Z2002K, Z2003K ----- 41"
Models Z1404K, Z1804K, Z2004K ----- 42"

Weight

All Models ----- Approx. 650lb.

Fuel Tank

Models Z1202B, Z1203B ----- Approx. 3 Qt.
Models Z1402K, Z1403K, Z1404K, Z1802K, Z1803K
Z1804K, Z2002K, Z2003K, Z2004K ----- Approx. 5 gallons

Hydrostats

Models Z1202B, Z1402K, Z1802K, Z2002K - (2) Sauer/Sundstrand
BDU-10S
Models Z1203K, Z1403K, Z1803K, Z2003K, - (2) ----- Hydro-Gear
Z1404K, Z1804K, Z2004K BDU-10L

Engine

Models Z1202B, Z1203B-----12 h.p. one cyl. Briggs IC
 Models Z1402K, Z1403K, Z1404K--14 h.p. one cyl. Kohler Command
 Models Z1802K, Z1803K, Z1804K-----18 h.p. twin Kohler Magnum
 Models Z2002K, Z2003K, Z2004K-----20 h.p. twin Kohler Magnum

Engine to Hydrostat belt (Kevlar)

Models Z1202B, Z1203B, Z1402K, Z1403K,
 Z1802K, Z1803K, Z2002K, Z2003K-----A-70
 Models Z1404K, Z1804K, Z2004K----- (Special)A-80

Tires

	Front	Rear
Models Z1202B, Z1203B	4.10-3.50 x 4	18-9.5 x 8
Models Z1402K, Z1403K, Z1404K		
Z1802K, Z1803K, Z1804K		
Z2002K, Z2003K, Z2004K	13-6.00 X 5	20-10-10

DECK SPECIFICATIONS

-----Decks-----						
ITEM	Z4102M	Z4202M	Z4802M	Z4804M	Z6002M	Z6004M
Cutting width	41"	42"	48"	48"	60"	60"
Cutting height	1.5" to 3.75"	-----1.75" to 4"-----				
Blades	(2)-20 1/2"	(3)-15"	(3)-17"	(3)-17"	(3)-21"	(3)-21"
Overall width including chute	53"	53"	59"	59"	75"	75"
Engine to mower deck belt	BP-106	BP-82	BP-82	BP-82	BP-81	BP-81
Mower deck belt	BP-106	AP-89	AP-100	AP-100	A-112 (-----SPECIAL-----)	A-112
Material thickness	13 GA.	14 GA.	12 GA.	12 GA.	12 GA.	12 GA.
Reinforcement plate		3/16	3/16	3/16	3/16	3/16
Spindle bearings	3/4"	25mm	25mm	25mm	25mm	25mm
Fits tractor	Z1202B	-----Z1402K Z1802K Z2002K-----				
	Z1203B	-----Z1403K Z1803K Z2003K-----				
		-----Z1404K Z1804K Z2004K-----				

NOTE: Tractors should be matched to decks to insure sufficient power is available for the intended usage.

MAINTENANCE



CAUTION



BEFORE PERFORMING ANY MAINTENANCE, TURN OFF ENGINE
REMOVE KEY AND DISCONNECT SPARK PLUGS. USE EXTREME
CARE WHEN WORKING ON MACHINERY. DO NOT WEAR WATCH
OR JEWELRY. DO NOT WEAR LOOSE FITTING CLOTHES, AND
OBSERVE ALL COMMON SAFETY PRACTICES WITH TOOLS.

MAINTENANCE SCHEDULE

SERVICE	WHEN
Check drive belts -----	every 50 hours
2 on Z1202B, Z1203B	(20 hrs breakin)
3 on Z1402K, Z1403K, Z1404K, Z1802K, Z1803K, Z1804K, Z2002K, Z2003K, Z2004K	
Check crankcase oil level -----	before each use
Clean grass from Hydrostat fans and cooling fans-----	before each use
Check air intake screen -----	after each use
Clean grass under deck -----	after each use
Check tire pressure -----	every 10 hours
Check battery fluid -----	every 10 hours
Sharpen mower blades -----	every 10 hours
Clean air filter element -----	every 10 hours
Check hydrostatic transmission fluid -----	every 25 hours
Change hydrostat oil filter PN 62294-----	every 500 hours
Models Z1203B, Z1403K, Z1404K, Z1803K, Z1804K, Z2003K, Z2004K	(100 hrs breakin)
Check adjustment of P.T.O. Clutch -----	every 50 hours
	(or if blades do not stop within 7 seconds from switch disengagement)
Change engine crankcase oil and filter-----	every 25 hours
	(5 hrs breakin)
Replace air filter element-----	annually or 500 hours
Check spark plugs -----	annually or 500 hours
Service battery -----	annually or 500 hours

Replace decals when illegible. Write **SNAPPER** parts dept. for free replacement

MAINTENANCE INSTRUCTIONS

1. ENGINE:

For complete maintenance and operating information for you engine, please refer to your engine operating and maintenance instructions furnished by the engine manufacturer and included in your **Snapper** Zero Turning Radius Mower information packet.

NOTE: Air intake screen must be kept clean. If plugged, engine may be seriously damaged by over heating.

2. BATTERY:



CAUTION



BATTERY ELECTROLYTE IS A POISONOUS AND CORROSIVE SULFURIC ACID SOLUTION. AVOID SPILLING ON SKIN, EYES AND CLOTHING.

Keep the electrolyte level above the plates in each cell by adding distilled water as it becomes necessary. Add water just before operating the mower to mix the water with the solution. Be careful not to overfill the battery -- the electrolyte solution is corrosive and can cause damage to surrounding metal parts if it should spill. Keep your battery at 1.260 specific gravity charge. When taking the battery out of the mower for servicing, make sure to connect the cables to the battery exactly as they were prior to removal.

Keep the battery clean. Remove the corrosion around the battery terminals by applying a solution of one part baking soda to four parts water. Coat all exposed terminal surfaces with a light layer of grease or petroleum jelly to prevent corrosion.

NOTE: At temperatures below 32 degrees F (0 deg C) the full charge state must be maintained to prevent cell electrolyte from freezing and causing permanent battery damage.

3. TIRES:

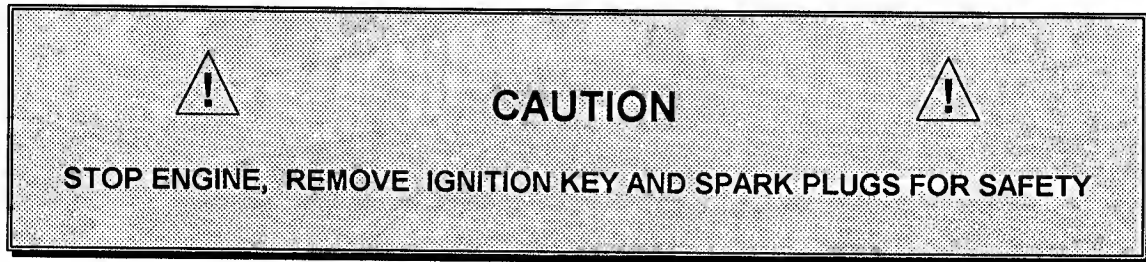
Correct tire pressure is essential for efficient operation of the mower. Check tire pressure periodically. Inflate tires to the pressure listed below:

Tire Pressure:	Front tires	Rear tires
Models Z1202B, Z1203B -----	10" 24 psi	18" 12 psi
Models Z1402K, Z1802K, Z2002K Z1403K, Z1803K, Z2003K -----	13" 20 psi	20" 24 psi
Models Z1404K, Z1804K, Z2004K -----	13" 16 psi	20" 16 psi

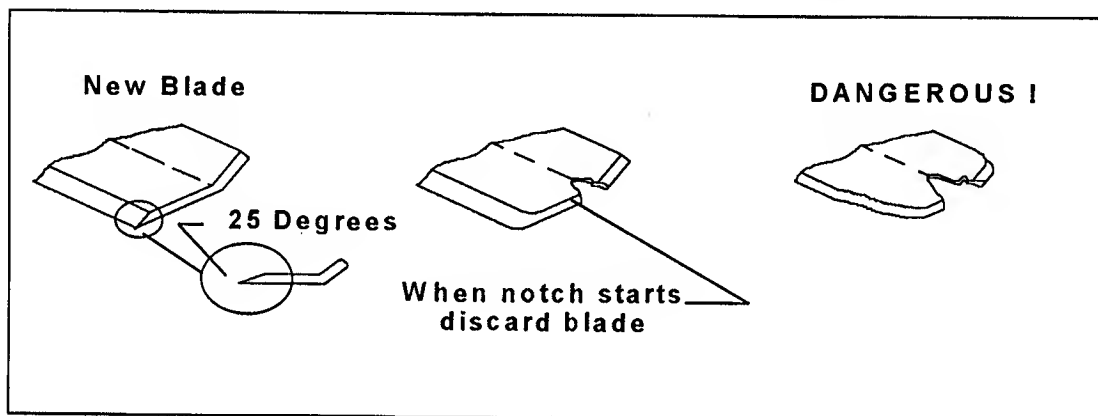
Lug nuts or lug bolts should be checked regularly for tightness.

4. MOWER BLADES:

Check sharpness of mower blades after every 10 hours of operation. To sharpen blades proceed as follows:



- A. Remove bolt, lock washer, cup washer, and large flat washer mounting blade on shaft. Remove blade.
- B. Blades should be discarded when worn excessively. See sketch.



- C. Sharpen blade with a hand file, electric grinder or blade sharpener. Wear gloves and eye protection when sharpening. Grind blade at original bevel.
- D. Check balance of blade by positioning the blade on a nail or blade balance pedestal. Grind the blade on the end that is heavier until both sides balance.
- E. Install blade, large flat washer, cup washer, lock washer and bolt. Make sure to tighten bolt to 60 ft.lbs.

5. V-BELTS:

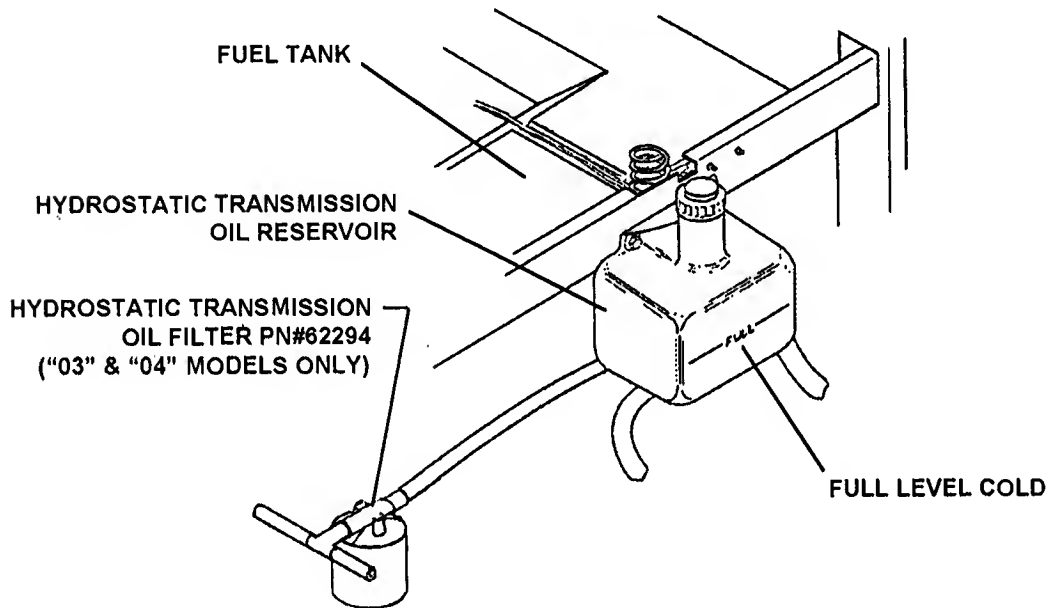
There are 2 V-belts on your **Snapper** Zero Turning Radius Mower model Z1202B, and Z1203B and 3 on Models Z1402K, Z1403K, Z1404K, Z1802K, Z1803K, Z1804K, Z2002K, Z2003K, and Z2004K. They should be checked every 50 hours. Replace any belts found to be in poor condition. The deck belts are equipped with spring loaded belt tighteners and do not require tightening adjustments. The hydrostatic transmission belt is adjusted manually (see page 16 for tensioning instructions.).

6. LUBRICATION.

- A. Engine: Follow engine manufacturer's recommendation.
- B. Deck Spindles: Lubricate with 3 "shots" only every 100 hours.
- C. Hydrostatic transmission & Filter

Checking and Replenishing Oil

**DIRT OR WATER IN OIL CAN RUIN
THE HYDROSTATIC TRANSMISSION**



1. Check the oil level in hydrostat transmission oil reservoir after every 25 hours of usage. Do not remove the reservoir cap to check the oil level as this allows dirt to enter the transmission. Replenish as needed with 15W-50 Synthetic Mobile One Motor Oil.

If oil is needed:

- a. Wipe area of oil reservoir cap clean of any dirt or debris.
 - b. Remove oil reservoir cap.
 - c. Fill to line marked on reservoir.
 - d. Do not over fill.
 - e. When checking oil level be very careful to keep the reservoir clean and to fill only with clean oil.
2. Change the oil in the reservoir and hydrostat transmission oil filter after the first 100 hours of use. Then every 500 hours after that. Remove the filter and be sure all oil has drained from the reservoir. Replace with new filter and 15W-50 Synthetic Mobile One Motor Oil.

7. **JOYSTICK NEUTRAL ADJUSTMENT:** With the engine running, if the machine travels in either direction when the Joystick is in the neutral "DOWN" position, stop the engine, elevate the rear wheels clear of the ground and adjust as follows:

- a. Remove the right hand fender skirt exposing the Joystick assembly.
- b. Start the engine.

Large Adjustments:

- c. Remove the cross bolt, nut, and spacers.
- d. Loosen the turnbuckle nut and adjust turnbuckle until the cross bolt and spacers can be reinstalled without the wheels turning. Note: The outside cable controls the right wheel and the inside cable controls the left wheel.
- e. Reassemble and tighten cross bolt and turnbuckle nuts.

Fine Adjustments:

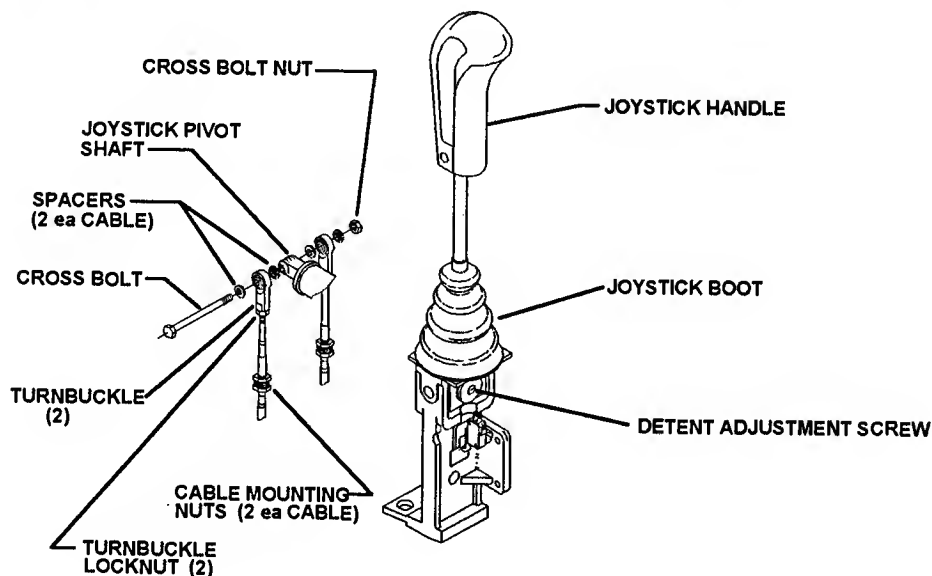
- f. Adjust the cable mounting nuts up or down on the cable until the wheels stop turning.
- g. Stop engine and reassemble the fender.

8. **JOYSTICK DETENT ADJUSTMENT:** If the Joystick does not lock in "UP" position, turn the detent adjustment screw clockwise until a desirable locking action is obtained. If the Joystick is hard to slide up and down, turn the detent adjustment screw counter-clockwise until a desirable sliding action is obtained.

9. **JOYSTICK SENSITIVITY ADJUSTMENT:** To change the sideways turning response adjust as follows:

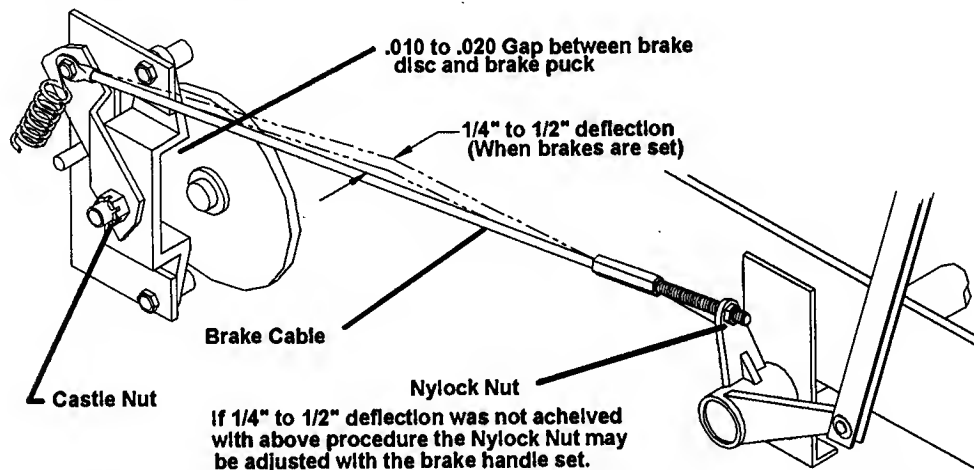
- a. Remove the right hand fender skirt exposing Joystick assembly
- b. Remove the cross bolt, nut and spacers.
- c. Reassemble spacers as desired. (more spacers between the turnbuckle and joystick pivot shaft quicken the response, less slows the response.)

NOTE: It is important that there is a spacer on each side of the turnbuckles to prevent damage to the turnbuckle or cables.



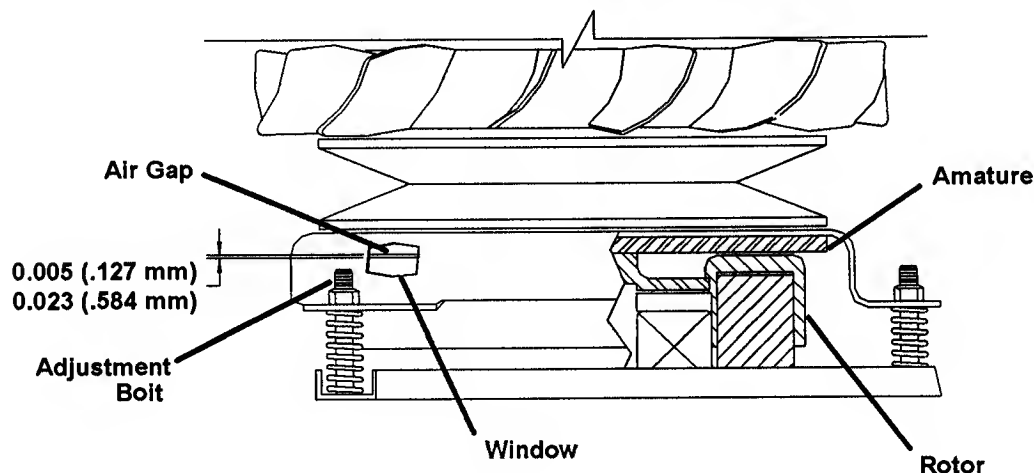
10. **PARKING BRAKE ADJUSTMENT:**

- a. With the brake handle in the release position. Remove the cotter pin from the castle nut. Insert a 0.010 to 0.020 feeler gauge between the brake disc and the brake puck. Tighten the castle nut with the feeler gauge inserted until the gauge fits snugly between the disc and puck. The gap should not be so tight that the feeler gauge cannot be reinserted after removal. Back the castle nut to the closest pin hole and reinsert the cotter pin. Repeat for other side.



11. **ELECTRIC PTO CLUTCH ADJUSTMENT:** Readjustment of the air gap between the friction surfaces to compensate for the wear that has taken place.

- a. Elevate rear of mower and locate electric clutch on motor shaft.
- b. Locate the three windows in the brake plate, one near each adjustment nut. (see illustration)
- c. Insert a 0.012 inch (.305mm) feeler gauge into one of the three windows. Be careful to position the feeler gauge between the rotor and armature faces. (see illustration)
- d. Tighten the adjusting nut adjacent to the window with the feeler gauge inserted until the gauge fits snugly between the rotor and armature. The air gap should not be so tight that the feeler gauge cannot be reinserted after removal. Repeat Steps c and d at the other two windows.
- e. Recheck the air gap at each window and make minor adjustments as necessary to achieve a consistent 0.012 inch (.305 mm) air gap.
- f. Remove the feeler gauge and rotate the rotor by hand, checking for rotor /armature drag. The rotor should rotate freely with no sound of drag. If rotor/armature drag is present, repeat Steps b thru e.
- g. After rotating the rotor, verify the air gap by rechecking it with feeler gauges. The air gap should fall between 0.005 inch (.127 mm) and 0.023 inch (.584 mm). This change in air gap after rotating the rotor is normal. If the air gap does not fall with tolerance, repeat.



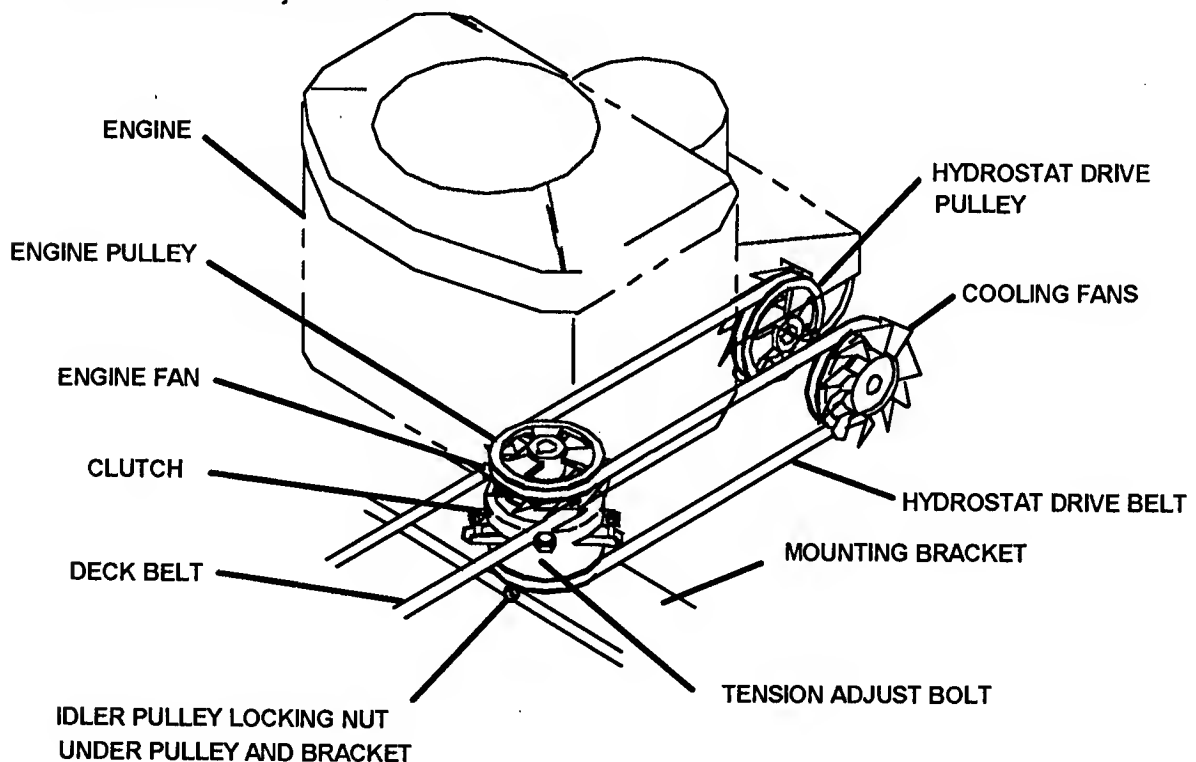
12. HYDROSTATIC TRANSMISSION:

Before each use, check to be sure that the cooling fins of the hydrostatic transmissions are clean. Excessive accumulation of oil, dirt, or trash may cause the transmission to overheat. NEVER WASH ACROSS TOP OF RESERVOIR with water or steam. Fill reservoir as required per instructions page 13 of this manual.

13. HYDROSTAT DRIVE BELT TENSION ADJUSTMENT:

In normal use the hydrostat drive belt tension should be checked after the first 20 hours of use for normal wear in and stretch. It may be adjusted as follows:

- a. Loosen the idler pulley locking nut until the idler pulley can be just moved relative to the mounting bracket.
- b. Tighten the tension adjust bolt until the belt is tight enough to prevent belt slippage. Belt should deflect approximately $\frac{3}{8}$ " to $\frac{5}{8}$ " under moderate pressure. Do not over tighten.
- c. Retighten the slide locking nut.
- d. Retighten the tension adjust bolt $\frac{1}{4}$ turn to set the lockwasher and prevent loosening of the tension adjust bolt.



14. SCALPER ROLLER BOLTS:

Scalper roller bolts should be tightened until the spacer bushing will not turn relative to the scalper bracket to prevent undue wear on the end of the spacer bushing and the scalper bracket. The proper torque is from 17 to 20 ft.lb.

TROUBLE SHOOTING CHECK LIST

1. ENGINE WON'T TURN OVER.

Mower blades engaged -----	disengage blades
Drive not in neutral -----	move Joystick to neutral "DOWN" position
Blown fuse -----	replace fuse
Dead battery -----	charge or replace
Solenoid -----	consult dealer
Ignition switch -----	consult dealer
Starter -----	consult dealer

2. ENGINE WILL TURN OVER BUT WON'T START.

No gas -----	refuel
	clean or replace fuel filters
Over or under choked -----	adjust choke
Spark plug not firing -----	check spark plug
	condition and reset gap*
Carburetor maladjustment -----	reset carburetor adjustment*
Ignition switch -----	consult dealer

3. HARD TO START ENGINE.

Fuel line clogged -----	clean fuel line and check fuel filter
Faulty fuel pump -----	consult dealer
Spark plug wire loose or grounded -----	check spark plug wires
Spark plug(s) faulty or improperly gapped -----	check spark plug
	condition and reset gap*
Electronic ignition defective -----	consult dealer
Dirty or maladjusted carburetor -----	readjust carburetor*
	consult dealer for carburetor service

4. ENGINE STARTS BUT CUTS OUT.

Water in gas -----	drain old gas and replace with new gas
	clean carburetor bowl
Clogged fuel line -----	check fuel filter
	clean fuel line
Vent in fuel cap plugged -----	check vent
Faulty fuel pump -----	consult dealer
Maladjusted carburetor -----	readjust carburetor*
Engine dies when raising Joystick -----	parking brake set
	release brake

5. ENGINE KNOCKS.

Low oil level -----	check and add oil
Ignition timing off -----	consult dealer
Fuel octane too low -----	drain and replace with
	higher octane gas
Over heated engine -----	shut off engine and allow to cool

*: See engine manual for engine adjustments

6. ENGINE SOMETIMES SKIPS AT HIGHER SPEEDS

Incorrect Ignition Timing -----	consult dealer
Carburetor maladjusted -----	readjust carburetor
Faulty spark plugs -----	check spark plug
	clean and reset gap
Bouncing off seat safety switch -----	slow down on rough terrain

7. ENGINE OVERHEATED

Air intake screen or fins clogged -----	clean intake screen and fins
Fuel mixture too lean -----	readjust carburetor*
Oil level too low or too high -----	adjust oil level
Improper ignition timing -----	consult dealer
Running engine too slow -----	run engine faster

8. ENGINE IDLES POORLY

Carburetor maladjustment -----	readjust carburetor
Improper spark plug gap -----	check and re-gap plug

9. ENGINE BACKFIRES

Carburetor maladjustment -----	readjust carburetor
--------------------------------	---------------------

10. ENGINE RUNS BUT MOWER WON'T MOVE FORWARD

Drive belt loose or broken -----	re-tension or replace
Shift linkage cable disconnected -----	reconnect
Transmission shift arm disconnected -----	reconnect
Transmission oil low -----	add oil
Transmission locks in unlock position -----	put in lock position
Air in Transmission (02 Models) -----	air bleed
	(Per Service Bulletin 199208)
Hydrostat Oil Filter Plugged (03, 04 Models) -----	replace filter PN 62294
Not enough tension on drive belt -----	check
Bad Transmission -----	consult dealer
Gear Mating Transmission/Gearbox disconnected -----	consult dealer

11. MOWER LOSES POWER OR TRANSMISSION OVERHEATS

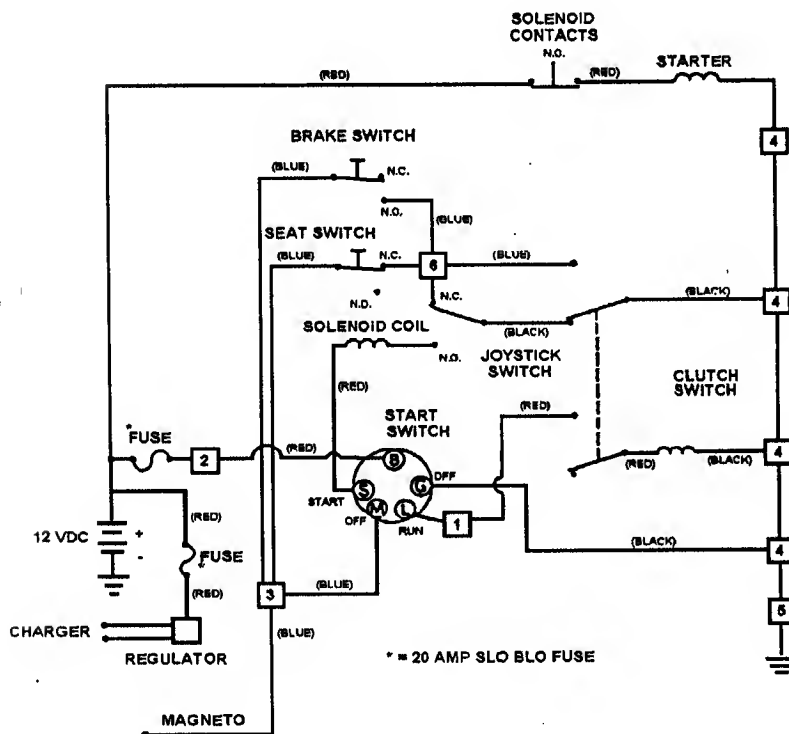
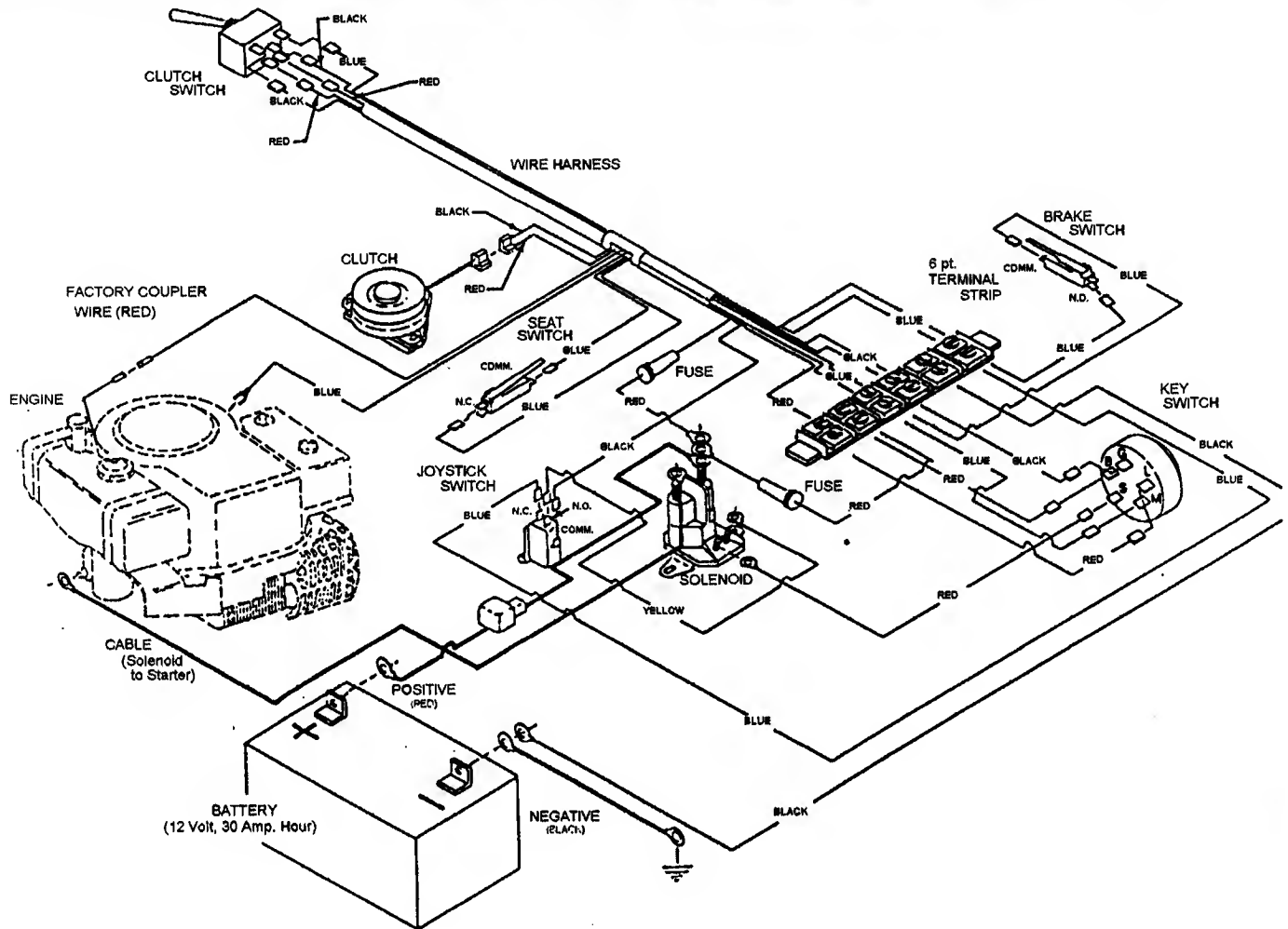
Hydro. trans. oil too low or too high -----	add oil
Transmission damage -----	consult dealer
Transmission blowing oil out cap -----	overfilled or water contaminated

12. ENGINE STALLS WHEN BLADES ARE ENGAGED

Operator not on seat -----	sit on seat
Faulty interlock system -----	consult dealer
Bad blade spindle bearing -----	consult dealer
Deck drive belt not properly routed -----	reroute
Blades blocked by foreign material -----	clean under deck

* See engine manual for engine adjustments

WIRING SCHEMATIC: 12 h.p. MODEL

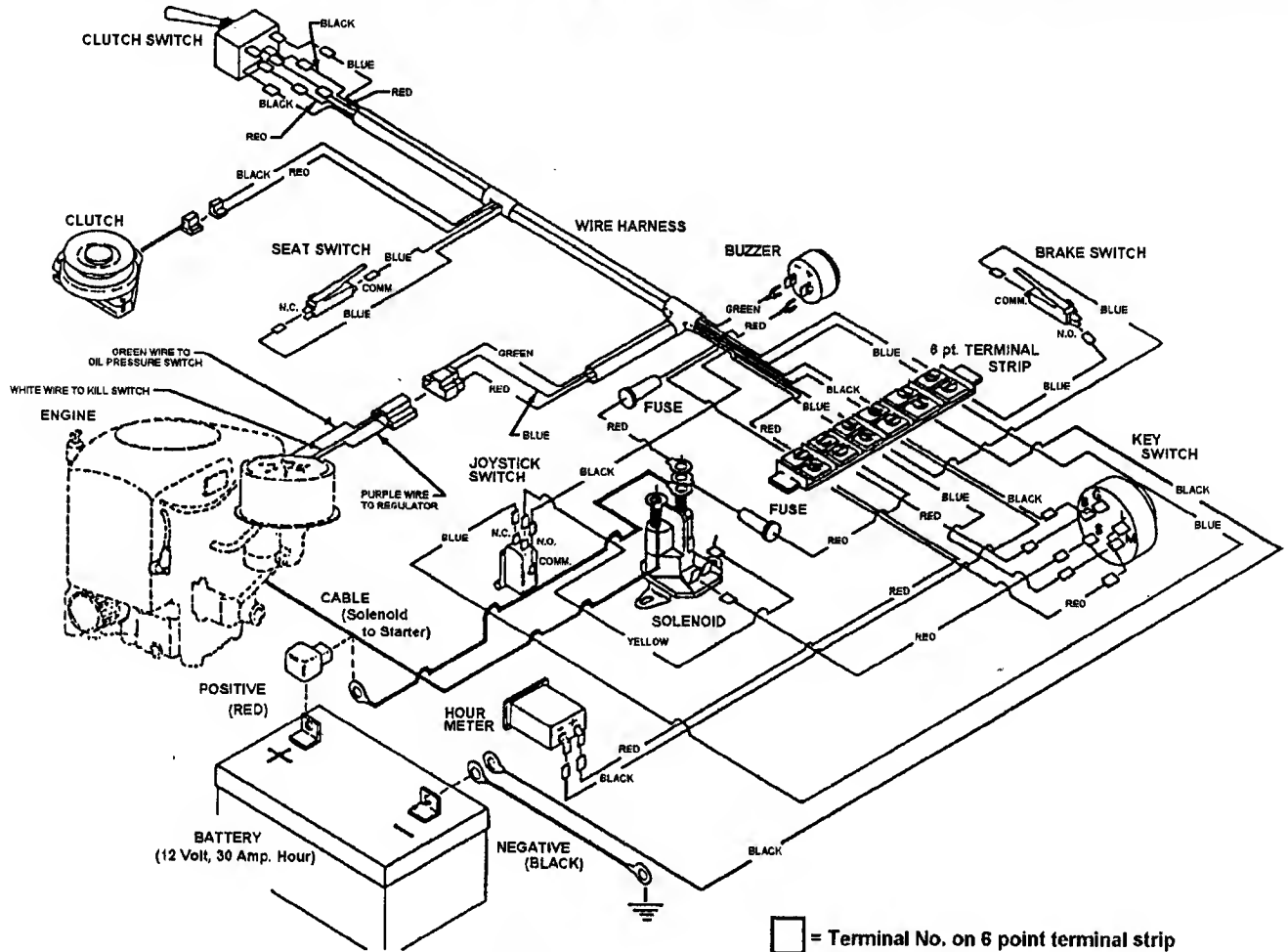


□ = Terminal No. on 6 point Terminal Str

Black wires = Ground
Red wires = Power
Blue wires = Kill Circuit
Yellow wires = Start Circuit
Green wires = Signal Circuit

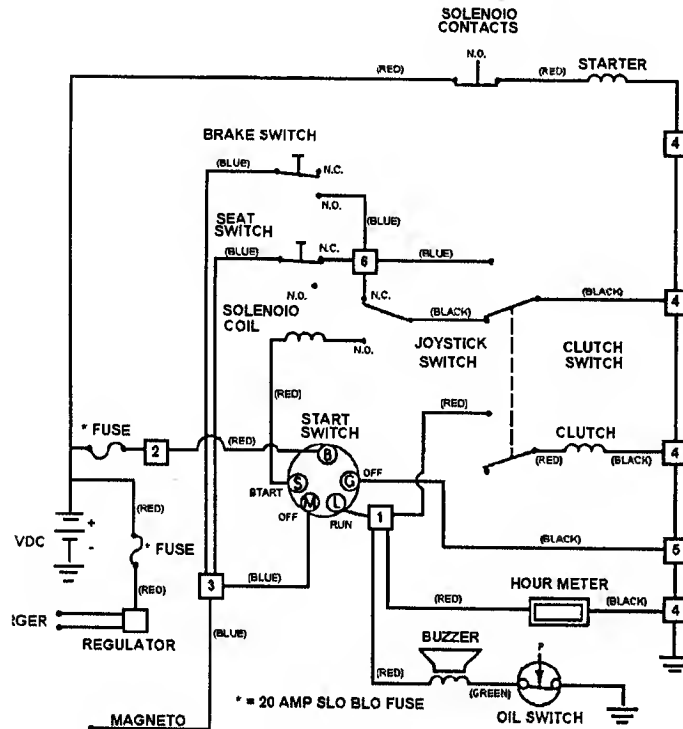
START SWITCH	
POSITION	CIRCUIT "MAKE"
OFF	G+M
ON	B+L
START	B+L+S

WIRING SCHEMATIC: 14, 18, & 20 h.p. MODELS



□ = Terminal No. on 6 point terminal strip

Black wires = Ground
Red wires = Power
Blue wires = Kill Circuit
Yellow wires = Start Circuit
Green wires = Signal Circuit



START SWITCH	
POSITION	CIRCUIT "MAKE"
OFF	G+M
ON	B+L
START	B+L+S

SNAPPER POWER EQUIPMENT
McDonough, GA 30253

MANUAL #62059
(1-95)
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